

Name _____

Date: _____

PC: Quarter 1 Test 2 Review

For each of the following, simplify the expression completely. (Remember to write down any restrictions.)

1. $\frac{8a^2 - 8ab}{16a^3 - 16a^2b}$

2. $\frac{6k^2 - 30k}{15 + 7k - 2k^2}$

3. $\frac{4h^2}{h^2 - h}$

Perform the indicated operation(s) and simplify. (Do not forget to write the restrictions.)

4. $\frac{x^2y + xy^2}{x^3 - 4x^2y} \cdot \frac{xy - 4y^2}{xy^2 + 2y^3}$

5. $\frac{a^2 - ab}{ab + 2b^3} \div \frac{a^2 + ab}{ab + b^2}$

6. $\frac{21x^2 + 10x + 1}{16x^2 + 8x - 15} \div \frac{21x^2 - 11x - 2}{20x^2 + x - 12}$

7. $\frac{4y^2 - 21y - 18}{3y^2 + 31y + 56} \cdot \frac{3y^2 - 5y - 28}{2y^2 - 15y + 18} \div \frac{3y^2 - 17y + 20}{2y^2 + 13y - 24}$

8. $\frac{y-3}{y^2+3y-4} + \frac{2y+1}{2y^2+6y-8}$

9. $\frac{y}{y+2} - \frac{2}{3-y} - \frac{3y+1}{y^2-y-6}$

10. $\frac{\frac{2}{x} - \frac{1}{2z}}{\frac{3}{w} - \frac{1}{3z}}$

11. $\frac{4 - x^{-2}}{2x^{-1} - x^{-2}}$

$$12. \frac{1 - \frac{1}{1-x}}{16 + \frac{7}{x^2-1}}$$

Use the geometric definition of absolute value to find the solution set to the following.

$$13. |x - 3| = 5$$

$$14. |2x - 3| = 1$$

$$15. |7 - 3x| \leq 6$$

$$16. \left| \frac{5}{6} + \frac{2}{3}x \right| > 6$$